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ABSTRACT

This study tested whether a significant difference exists between academic performance scores of eighth grade students from one-parent homes and those from two-parent homes in the areas of reading, mathematics, science, social studies, and English. School records pertaining to academic achievement, and free-lunch applications were used to collect data. Findings showed no sigificant difference in the total sampling population when all subjects were compared. Generally, the number of parents in the home was found to be statistically insignificant. Major significant differences found in the data centered on the sex of the parent. Academic achievement was found to be significantly related to father's presence in the home. In the cases of math and science, sex of child was a determinant of academic achievement. No significant relationship was found between academic achievement and family status in the total population, but slight significant differences were found between groups. Findings suggest that teachers should not expect students from one-parent homes to be low achievers. (Author/RH)

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A Comparison of the Achievement Levels of Eighth Graders From One Parent Homes With Those from Two-Parent Homes

A B S T R A C T

Submitted to the Faculty of the Graduate School of the University of Sarasota

By

Dollie Walton Taylor

In Partial Fulfillment of the Requirements for the Degree of Doctor of Education

August 1986

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Abstract

Currently schools are called upon more and more to accommodate students' differences in background and experiences. Of concern is the growing number of students from one-parent homes, and whether this phenomenon affects academic achievement in a significant way. A comparison of the achievement levels of eighth grade boys and girls from one-parent homes with those from homes with both parents was designed to test whether there was a significant difference in the school performance in the areas of reading, math, science, social studies and English. The sample population of 301 eighth grade boys and girls from three elementary schools was identified for family status from free-lunch applications. Iowa Test of Basic Skills (ITBS) scores were used for academic comparison. The results showed no significant difference in academic achievement in the mean scores of the total population. However, when tested for one of the subproblems such as whether eighth grade boys from father-headed homes achieve higher than boys from homes with mother as the only parent it was found that boys from the home with the father as the only parent achieved significantly higher. On the basis of these findings, it is suggested that school administrators have workshops for teachers and staff to make them aware of the pupils who are from one-parent homes. The schools may consider ways and means to provide male-role models when possible, become more accepting of these students, and learn not to expect trouble from children who come from one-parent homes.

TABLE OF CONTENTS

Page

LIST OF TABLES.....

CHAPTER

I. BACKGROUND OF THE PROBLEM.....

Introduction.....

Statement of the Problem.....

Hypothesis.....

Subproblem.....

Purpose of the Study.....

Delimitations.....

Definitions of Terms.....

Need and Significance.....

Summary.....

II. REVIEW OF THE RELATED LITERATURE.....

Introduction.....

Emergence of One-Parent Families.....

Historical Aspects.....

Traditional Aspects.....

Idealisms.....

Psychological Underlying Variable.....

Emotional Ramifications.....

Economic Realities.....

Social Studies.....

Educational and Academic Findings.....

Van Vlissengen School
137 West 108th Place
Chicago, Illinois
January 10, 1986

Dr. Erwin Brown
Director, Evaluation & Research
1810 West Pershing Road
Chicago, Illinois

Dear Dr. Brown:

I am a candidate for a doctorate degree in education at the University of Sarosota. I am seeking permission to examine the Iowa Test of Basic Skills Scores and the Free Lunch Applications of the eighth grade students of Van Vlissengen School.

My research title is: A comparison of the Achievement Levels of Eighth Graders From One-Parent Homes with Those From Two-Parent Homes. This study will help administrators, counselors, and teachers become more sensitive and responsive to the needs of those from one-parent homes.

With sincere appreciation for your cooperation in this capacity, I express to you my gratitude.

Sincerely,
Dollie Walton Taylor

A COMPARISON OF THE ACHIEVEMENT LEVELS OF EIGHTH GRADERS FROM ONE PARENT HOMES WITH THOSE FROM TWO-PARENT HOMES

A Dissertation

Submitted to the Faculty of the Graduate

School of the University of Sarasota

By

Dollie Walton Taylor

In Partial Fulfillment of the Requirements

for the Degree of

Doctor of Philosophy

August 1986

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With gratitude, I wish to acknowledge my appreciation to Dr. Ronald Jones, my advisor; Dr. Robert H. Zeller; and Dr. Roger Goddard for their support and encouragement. I also wish to thank my husband, Frank, my step-daughter Frances, my sister Clara, my good friend Joyce Powell, and statistician Dr. Wayne Frederick for their tolerance and forbearance during the completion of this dissertation.

TABLE OF CONTENTS

Page

LIST OF TABLES.....

CHAPTER

I. BACKGROUND OF THE PROBLEM.....

Introduction.....

Statement of the Problem.....

Hypothesis.....

Subproblems.....

Purpose of the Study.....

Delimitations.....

Definitions of Terms.....

Need and Significance.....

Summary.....

II. REVIEW OF THE RELATED LITERATURE.....

Introduction.....

Emergence of One-Parent Families.....

Historical Aspects.....

Traditional Aspects.....

Idealisms.....

Psychological Underlying Variable.....

Emotional Ramifications.....

Economic Realities.....

Social Studies.....

Educational and Academic Findings.....

CHAPTER Page

Implications for Education..... 20

Summary..... 31

III. DESIGN OF THE STUDY..... 33

Introduction..... 33

Hypothesis..... 34

Subproblem..... 34

Collection of Data..... 35

Description of Sample..... 37

Summary..... 37

IV. FINDINGS OF THE STUDY..... 39

Introduction..... 39

Hypothesis..... 39

Subproblem A..... 41

Subproblem B..... 41

Subproblem C..... 42

Subproblem D..... 43

Subproblem E..... 43

Subproblem F..... 43

Subproblem G..... 44

Summary..... 45

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS..... 46

Summary..... 46

Subproblem A..... 47

Conclusions and Recommendations..... 49

CHAPTER Page

Summary..... 50

BIBLIOGRAPHY..... 51

APPENDIX

LIST OF TABLES

TABLE		Page
1.	Description of Population for Math, Reading and English.....	55
2.	Description of Population for Reading, Science, and Social Studies.....	56
3.	Analysis of Variance - Summary Table Math + (English).	57 - 58
4.	Analysis of Variance - Summary Table (Reading).....	59
5.	Analysis of Variance - Summary Table Science (Social Studies).....	60 - 61
6.	Mean Scores for Sampling along Parental Lines.....	62
7.	Pertinent Letters, etc.....	63
8.	Raw Data.....	64 -

CHAPTER I

Introduction

Currently, sociologists and psychologists are trying to identify home environment characteristics that are directly related to cognitive development and to achievement in schools. Skeels and others have shown that the amount and quality of stimulation provided for infants was associated with their intellectual development, but beyond that little was known about how home process variables are related to children's intellectual and scholastic achievement. Thus, researchers began to examine a whole set of additional variables in order to identify home and parent characteristics that are consistently related to intellectual development. (Dave, 1963) and (Wolf, 1964) devised interview protocols that could be used to categorize the home environment on a number of characteristics likely to be related to performance on tests of ability and school achievement.

Recently, families show a rise in the proportion of children who experience a parental disruption. In 1960, eighty-three percent of all children under eighteen were living in families with both parents present, but by 1975 this proportion had declined to eighty percent. Ninety percent of those in one-parent homes were living with their mothers (Norton and Glick, 1976). Studies indicate that children who meet their potential in academic settings have fathers who are available for a minimum of six to fourteen hours per week (Blanchard and Biller, 1971).

Statement of the Problem

An article in the New York Times puts the problem of this research on one-parent families and educational disadvantage quite briefly.

> Almost half of the nation's children will spend at least part of their early years in one-parent homes...Yet, most schools are still structured around traditional styles of family living. They haven't budged from banker's hours that pose problems for working single parents. Textbooks still depict mom-and-dad families. Teachers and administrators assume both parents are around or whisper that Johnny's misbehavior is to be expected because, after all, his mother (or father) is a divorcee (New York Times January 7, 1979).

There has been a significant amount of research which concerns the academic achievement of the child from the single-parent family. A considerable amount of that research indicates that the child from a one-parent household is at a lower level in both socio-emotional development as well as academic achievement. Students from two-parent families tend to record higher reading comprehension achievement scores than do students from one-parent families (Thompson, 1979). More specific results were reported by (Shinn, 1978), in an earlier study. He found differences in the cognitive performance between intact (two-parents) and one-parent families...from 0.2 to 1.6 years in achievement from 0.2 to 0.9 standard deviation units in I.Q. and aptitude and

from 8.0 of the difference between "B" and "C" in grade point average (Shinn, 1979, p.5).

Historically, society has discriminated against children from single-parent homes; research is cited which shows that (1) Children from one-parent households are at lower levels of socio-emotional development and academic achievement. (2) The female head of household is often less skilled and educated than the average man who acquired custody of his children; (3) the father's role (or lack of it) makes a difference in children's behavior especially boys. (Dawson, 1981, p. 13).

Hypothesis

There is no significant difference in the academic achievement of eighth grade boys and girls from one-parent homes than those from two-parent homes.

Subproblems

Are eighth grade boys and girls from homes with both parents higher academic achievers than those from homes with single parents?

Are eighth grade boys from homes with mothers as the only parent higher academic achievers than boys from homes with both parents?

Are the eighth grade girls from homes with fathers as the only parent higher academic achievers than girls from homes with both parents?

Are eighth grade boys from father-headed homes higher

academic achievers than boys from homes with both parents?

Are eighth grade girls from mother-headed homes higher academic achievers than girls from homes with two-parents?

Purpose of the Study

One of the essential qualities of an effective educational administrator is to be sensitive to the needs of the population he serves. Both teachers and administrators are observing the increase in the number of children coming from one-parent families in addition to other new problems. It is the intention of this researcher to examine the achievement scores of Iowa Test of Basic Skills (ITBS) of eighth graders from two-parent homes, from mother-headed homes, and from father-headed homes to ascertain whether the presence or absence of one or the other parent affects the academic achievement.

The purpose of a study by (Legault, Dorothy Ann Lea, PhD, 1985) was to examine the relationship between school performance as measured by academic achievement, attendance, discipline, extracurricular activity participation, and family status to determine whether there was a significant difference between the performance of one-parent students and two-parent students. Race, sex, and socio-economic status were also chosen as predictor variables.

The early adolescent years are often considered difficult years for both the adolescent and the parents. The adolescent's changing physical body, mood swings, demands

for greater independence while demonstrating much dependence, and strong identification with the peer group present a challenge to parents even when there are two adults in the household. Such challenges may be even greater in a one-parent household. Thus, this study was designed primarily to answer the questions what is the relationship between school performance of seventh and eighth grade students and family status. Does it matter whether the family has one or two parents in the household?

The present study differs in that it utilizes the two-parent homes, the mother-headed, and the father-headed homes as variables for comparison to one-parent homes. It is the intention of this researcher to compare achievement scores in the manner listed in the subproblems. This study would help educators to become more sensitive to the changing needs of these students. Currently, teachers are observing an increase in the number of children coming from one-parent families. This research will investigate further how the academic achievement of eighth grade boys and girls compare if their homes are headed by both mother and father or by a father or by a mother as the only parent.

Another difference in the present study is that race, socio-economic status, attendance, discipline and extracurricular activities are not essential.

Delimitations

Students in this study live with either the mother or the

father without inquiry as to how the singleness came about. For example: whether death, divorce, or other factors caused the present head of the house to become the only parent is not analyzed in this investigation.

Definitions of Terms

Two-Parent Homes--Homes where both mother and father reside.

One-Parent Homes--Homes headed by either the mother or the father.

Eighth Graders--Students qualifying for this study are between twelve (12) and fourteen (14) years.

Achievement Levels--Academic scores made on the Iowa Test of Basic Skills in the areas of mathematics, reading, science, social studies and English.

Need and Significance

Academic achievement may be affected by each of either the mother or the father in the home.

> There is a greater probability of problems in school occurring with children from single-parent families.... Family circumstances are changing so rapidly from the traditional two-parent situation to the phenomenon of a single-parent family head that the specter of lower performance by increasing numbers of students over the schools.

Therefore, principals and school administrators may have to devote more time to these students. The principal can help

teachers and staff members become more aware of the special needs of these students. Administrators can encourage teachers and counselors to attend workshops and to enroll in training programs on this topic.

In summary, the results of this study may give direction to the schools about how to stop the increasing decline of achievement test scores.

Chapter II

REVIEW OF RELATED LITERATURE

Introduction

This chapter consists of a review of the related literature pertinent to the investigation which is organized in four parts namely:

1. Discussing the emergence of one-parent families; their psychological and emotional variables.
2. Exploring the problem, its history, its tradition, and its idealism which discusses parent involvement as it relates to education (homework, etc.).
3. The economic problems inherited by single-parents, and the inherent dependence of single parents upon their children for help in managing the homes.
4. Educational observations and implications for changes in the deliverance of educational programs.

Many families lost the traditional "head of the house" known as father because of wars. Mother absences occur as a result of divorce as well as death:

> Among children born between 1911 and 1920, about 22% lost a parent through death and five percent had parents divorce sometime before their eighteenth birthday. Gradually declining death rates meant that fewer children lost parents as the century went on. Smaller families had the same effect, since more children were born to younger parents.

> The result was that about 20 percent of the children born during the 1940's lost parents through death or divorce. Only for children born around 1960 did rising divorce rates begin to counteract the effects of falling death rates (Skolnick, 1980, p. 100).

Studies show rising divorce rates since 1960 helped increase the number of children under 14 who live with both parents to 88.5 percent, and they predict the trend is likely to continue. The effects on children and the harm to them academically have not been documented. However,

> There is some evidence that children from broken homes do not do as well in school as children from unbroken homes. Much of the disadvantage seems to come from the children whose parents divorce are no worse off than children whose homes are unbroken, but also unhappy. Although the evidence is scanty, it supports that most children adjust relatively quickly and well to the disruption and that in the case of divorce, the disruption may be better than the alternative of living in a tension-filled home (Skolnick, 1980, p. 101).

Very little research has been done on the relationship between father presence, absence, and the personality and cognitive development of girls except the works E.M. Hetherington which cneters upon the effects that occur in adolescence.

> That father absence has a greater impact on sex role orientation than it does on any other aspect of development,

and it affects boys more than girls. This impact is greatest where father absence occurs before the child reaches age 5. For boys, father absence tends to be associated with less appropriate sex typed behavior which is most apparent in pre-teen years (Back, 1946), but it may disappear with adolescence. For girls, effects of father absence have tended not to be found until adolescence when the most typical finding is a disruption in modes of relating to males in preparation for adult heterosexual behavior (Hetherington, 1972).

Role development in boys and girls other than the sex role has been overlooked; however, (Parsons, 1955) discussed the theory about the father's impact on instrumentality in children. He found that the:

> Father is the task leader in the family. By his example and his all powerful control over the rewards and punishments, he shapes instrumental behavior in both sons and daughters. The mother, on the other hand, is viewed as the expressive leader. The instrumental-expressive distinction is viewed as essentially the differentiation of function and relative influence in terms of "external" versus "internal" functions of the system. On the other hand, instrumentality and expression are not separate and opposite. (Bem, 1972).

A more recent formulation of instrumentality, defines the instrumental orientation as a "cognitive focus on getting

the job done." She argues that a restriction of males to an instrumental orientation and females to an expressive orientation is not adaptive across the situation. Bem further contends that instrumentality and expressiveness are desirable to exhibit either or both depending upon the situation (Parsons, 1972).

Therefore, boys and girls may inherit or receive both instrumental and expressive modes of psychological behavior or thought processes from either or both parents.

(Spence, 1978) distinguished between the psychological dimensions of masculinity and femininity on one hand and masculine and feminine sex roles on the other; states that instrumentality, then, is basically involved with managing the external affairs of the systems (in ways such as earning a living) being involved in "getting the job done" behavior and doing the active kinds of things that man and boys frequently are engaged in. Instrumentality is adaptive in both males and females depending upon the demands of the situation.

Studies about the emotional environment conclude that the "natural experiment" of various orphanages (which provide physical substenance but very little human contact) are prime examples of deprived emotional environment.

In these emotional depriving environments, there was a high incidence of depression, resistance, apathy, problems in all aspects of development, and decreased resistance to

disease. From time to time we see a child whose home environment apparently is not sufficiently emotionally nurturing because the caregiver is not emotionally available to the child...These children show irritability, depression, then apathy, and in some instances developmental retardation, a failure to thrive in the absence of any physical presence--parents--they respond to a change to a nurturing environment--with a decrease in signs of depression, and with an increase in physical growth as well.

A number of studies have found detrimental behavioral effects for one-parent children as compared to two-parent children.

Father absence on personality as studied by (Oshman, 1975) found that when a divorce occurred after the age of 12, the sample subjects evidenced poorer psychological development than those who experience divorce earlier. NAESP findings in 1980 by Lazarus that:

> There is no more traumatic event in a child's life than the loss of a parent whether by separation, divorce, or by death. Any major disruption in family life brings with it the potential for stress, anxiety, and depression, especially among young children who are not equipped to understand the complex emotions and motivations of the grownups they have so trustingly depended on all their lives. Further noted in the report (NAESP), it is normal to expect the child to feel insecure, confused, guilty, and these

feelings can be observed in the child's school performance.

Historically, the family included a father who worked, paid the bills, and gave emotional and psychological input as well. The mother remained in the home and took care of the children. The institution called the intact family became known as the "nuclear" family as well.

> The nuclear family, which became commonplace only during the two centuries since the industrial revolution, is proving to have been a short-lived experiment in this country. One-parent families already constitutes a very significant minority in the United States; they are increasing rapidly in numbers (Principal, 1980, p. 34).

Father absence is a growing phenomenon on the urban scene. Although both black and white children from low income families are affected, the greatest rise in father absence rates has been in black families. In 1950, father absence rates for whites was 8.5%; for blacks, it was 17.6%. By 1975, the father absence rate for whites had increased slightly to 10.5%, but for blacks, it had doubled to 35.3% (Sciara, 1977, p. 11).

The incidence of father absence in American family life today makes it an important factor for millions of Americans because:

> The family is one of society's major institution. For its members, the family is a source of protection, a target of attachment, and a model for identification. Parents,

especially those with children under the age of 18, play important roles within the family. If one of the main actors is missing, the other's job becomes much more difficult (Kegano, 1980).

The difficulty is not the missing parent, but (Kobelschantz, Adams, and Tucker, 1972) concluded that fatherlessness is not a crucial modifier either of a household or an individual's psyche. Emotional impairment largely reflects the mother's adjustment to the difficulties in the neglectful, if not openly hostile, social world. These findings were determined from medical records and a checklist concerning single parental attitudes toward their children (LeGault, 1985, p. 32).

In 1960, 83% of all children under 18 lived in families with both parents present, but by 1975, this proportion had declined to 80% (Norton & Glick, 1976, p. 4). Ninety percent of those in one-parent homes lived with their mothers.

LeGault (1985) suggests that the family structure of a one-parent home effects the child in the area of survival.

> These children may have to assume more responsibilities and rights. There are more negotiations and considerably less authoritarianism with single parents winning less often. Children frequently participate in decision-making because (single) parents find that their children must buy into the decisions for it to work (LeGault, 1985).

The absence of one-parent also leaves the responsibility

of the child's education on the remaining parent. Since the 1860's, teachers have expected parental help with homework. Study sessions around the kitchen table are still advocated today.

> Parents expect homework because it extends the time available for formal learning, encourages children to work on their own, and acknowledges the existence of different learning styles (Beattie, 1978), Strother, 1984, p. 423).

Controversy over the length of time spent on homework assignments and the quantity of homework as studies by the British Board of Education resulted in a suggested length of time allotted for children of differing age groups. Also, a study room was provided for children of the poor.

> Views on homework followed a similar pattern in the U.S. Learning theories in the late 19th century presented the mind as a muscle that could be developed through exercise. Thus, the schools stressed memorization, and educators as well as parents considered homework essential (Strother, 1984).

Later on, examination scores began to influence the children's educational future more strongly. Also, increased pressure to pass these exams brought increased pressure to assign more homework (Strother, 1984).

Minuchin (1984) found parent involvement to be beneficial in the elementary schools when she compared the socializing influence of different school programs on groups of nine-year

olds. When the schools and homes were similar, the socialization impact on children were reinforced.

> The number of parents in the home is relatively more important in the elementary grades than in high school (Zakariya, 1982, p. 14).

Pederson et. al. (1979) maintain that the father plays an important indirect role that is qualitatively different than any other adult. Part of his role is to support the mother in her parenting role through economic aid, emotional support, and appreciation of her role as a mother. The father may have a more direct role in shaping children's behavior as a model. In a single-parent family, there is only one parent to accomplish these functions. A mother and father are more likely to exhibit wider ranging interests, skills, and attributes than a single parent.

Blanchard and Biller, in their 1971 study, predicted that the degree of father availability would positively be related to their son's academic achievement and to grades. Their findings revealed that the academic performance of the father-present group was superior compared to the boys who came from early father-absent, late father-absent, or father-present situations with low father availability. Further, in every comparison, the father-present group out-performed the early father-absent group (Doering, 1980).

Our investigative study on economic problems inherent in

one-parent homes noted that:

> Achievement scores are lower for children from one-parent than from two-parent homes. The effect appears to work primarily through the lower income of one-parent homes. Children from two-parent homes have lower achievement if the mother works, and the magnitude of the effect is directly related to the amount of time worked. Black children from one-parent homes have higher achievement if the mother works, mediated to a large extent by increased family income (Milne et. al., 1983).

On the other hand, studies suggest that the most important variables in the child's emotional adjustment to his new lifestyle are the nature and quality of the new family arrangements, and the new psychological climate provided.

Riley (1981) after examining current literature about children of one-parent families and the effects of this living arrangement upon the children's behavior, personality and academic performance noted research indicated that at the elementary level, children often feared abandonment, acted aggressively, and displayed attention-seeking behaviors. At the secondary level, such children often blamed themselves, withdrew or showed anger, and other problems. In some cases, the experience led to greater independence and personal strength.

> Long term effects of father absence on personality were studied by Oshman (1975). He found that when a divorce

occurred after the age of 12, the sample subjects who were college students at the University of Texas, evidenced poorer psychological development than those who experienced divorce earlier. Other relationships with living in a one-parent family include more acts of vandalism (Phillips & Bartlett, 1976), a greater likelihood of poorer personal adjustment (Gaus, 1981), more demerits (Mundhend, 1980), more lying and stealing (Russell, 1957), more unsatisfactory marks (Shackelford, 1978), more psychosomatic symptoms (Rosenberg, 1976), less able to delay gratification (Mischel, 1961), fewer friends (Dogelschatz, et. al., 1972), more visits to the school nurses (LeGault, 1985, p. 38).

Several studies noted greater effect on boys than girls in one-parent families.

Studies indicate that boys have more 'acting out' behavior than do girls from the one-parent situation. Boys are also more affected by divorce than their female counterparts. Boys from mother-headed homes have been characterized as being more dependent, less masculine, more feminine in self-concepts and sex roles preferences, and less aggressive than boys from intact families (Hetherington, 1978).

The belief that father-absence has some detrimental effect upon children's academic achievement is also supported by the results of a study by Bronfenbrenner (1967) who described the "desperate effort of males in lower class culture to rebel against

their overprotective feminizing environments to find a masculine identity." These findings were particularly in the consideration of educational achievement since the traditionally feminine role of "teacher" often become a focus of rejection.

Furthermore, concerning school activity and boys in mother-headed homes, infrequent school activities and lower test scores were observed for boys who lived with their mothers only (Burthinal, 1964).

A study by Scapitti et. al. (1960) defined the macho emphasis and overt aggressiveness of youth gangs as a compensating factor for the lack of male role models due to father absence in the adolescent years (Ellison, 1979). The total number of children involved in the study was 38, with ten boys and nine girls in each group. The single-parent group was headed by mothers, and the mean number since parental separation was 36. This study was based on the observation of children in Dyadic conversations. The findings show significant differences between the two groups of children in both their classroom behavior and their psychosocial adjustment. Children from the one-parent family were rated as being more "academically disabled" than those children from the two-parent family. Also, the results of the analysis of gaze direction behavior suggest that two-parent children may adapt more successfully to the shifting demands of the classroom than the single-parent children (Ellison, 1979).

The contradicting sweeping study of Adams et. al. (1972)

concluded that fatherlessness is not a crucial modifier neither of household nor of an individual psyche.

> Emotional impairment largely reflects the mother's adjustment to the difficulties in a neglectful, if not openly hostile, social world. The findings were determined from medical records and a checklist concerning single-parental attitudes toward their children (LeGault, 1985).

Burchinal (1964) found that "Girls from unbroken homes were clearly more active in school activities than other girls. Girls living with their mothers were the next most active regarding grade-point-average measures." He found no significant differences between grade-point means.

A sampling of mothers and daughters from the National Longitudinal Surveys of Labor Market Experience was examined to determine whether living in one-parent family has any effect on the daughter's chances of completing high school; some interesting results were reported.

> The duration of the study was one year. The sample screening occurred in 1968 and lasted throughout 1969. The ages of the children involved in the study range from 14-18. The findings show that low income is the most significant factor, as reported earlier in accounting for the probability of a daughter dropping out of high school, both for blacks and whites (Shaw, 1979).

When SAT scores were gathered from 55 females and 45 males

from divorced families and matched with control group subjects from intact families, no significant differences were found in any aspect of SAT performances (Black, 1981). In another study of 200 fourth, fifth and sixth grade pupils, Black noted that prestige and educational background of the family are also significant in determining a student's academic achievement (Black, 1981).

Several studies have found that children from two-parent families score higher than those from one-parent families in reading comprehension, but they urge that caution be used when generalizing their results because they feel that too little was known about the effects of other family organization variables. For example, the study by Herzog and Sudia (1968) reviewed almost 400 studies of children growing up in fatherless homes. They examined primarily those studies conducted during the 1950's and 1960's plus a few outstanding ones that were done earlier. On the basis of their findings, they concluded that they would not expect adequate evidence to indicate dramatic differences stemming from fatherless homes, per se. (LeGault, 1985).

Four of those studies reported during the 1960's have some important results in the areas of the child's achievement and family [illegible]cus. For example, the length of the father's absence and the age of the child when the father left, because of activity during World War II, showed a relationship on later cognitive

development (Carlsmith, 1964).

The study of elementary children indicate that children from one-parent homes showed significantly lower means in academic achievement than two-parent children. The differences were larger for parent absences because of divorce, separation and desertion than absence because of death (Crescimbene, 1964). Sutton et. al. (1968) examined ACE scores from 1,055 sophomores at Bowling Green State University with socioeconomic status. They found that in general, father-absence has a depressive effect throughout, with the greatest effects during early and middle years. For the majority of the sample, the quantitative linguistic, and total scores on the ACE were lower for father-absent students. They concluded that father-absence has a negative influence on cognitive activity, an effect which is modified by sex of siblings. For example, boys without a brother are more affected than those with brothers; girls with younger brothers are more affected than other girls; and only girls are more affected than only boys.

Studies of elementary children reported in the 1960's after examining the effects of divorce upon cognitive functioning as in academic achievement found no significant results (Burchinal, 1964; Clark, 1961; Lochwood, 1966; Wasserman, 1968; Wohl, 1962). Others like Crescimbeni, 1964; Deutsch and Brown, 1964; Sutton-Smith, Rosenburg, and Landy, 1964; showed detrimental effects of father-absence (LeGault, 1985).

One study noted:

> A very substantial number of children of divorced parents live in poverty and nearly all of income reduction and poverty in female-headed families is the poor performance of fathers in providing financial support for their children. Estimates show that as little as 20 percent of the money needed by single-parent mothers to support their children is actually paid. Although recent efforts to strengthen child support enforcement provisions at the federal and state level have produced good results, the problem of poverty and low income among these families has hardly been affected (Haskins, 1983).

Although family status may be a determinant of school achievement, several studies agree that "Low income (which is characteristic of one-parent families) is a factor in the probability of daughters dropping out of high school; another factor listed is the female head of household who is often less skilled and educated than the average man who acquires custody of his children" (Dawson, 1981 p. 13). The physical presence as well as the level of education of the mother affects the child's school performance. Milner (1983) found that children from two-parent homes have lower achievement if the mother works, and the magnitude of the effect is directly related to the amount of time worked. For black children from two-parent homes the direct effect is negative, but the total effect is offset by enhanced family income. No

such offsetting, positive effect, appears for comparable white children. Black children from one-parent homes have higher achievement if the mother works, mediated to a large extent by increased family income. Results of Mann's study of children of working mothers (1983 p. 12) indicated that these children do as well in school as the children of mothers who stay at home.

Shaw's (1979) results on her multiple regression analysis agreed with Milner's findings:

> It is found that low income is the single most significant factor in accounting for the probability of a daughter dropping out of high school, both for blacks and whites.

Several studies reported that the lower income of single-parent homes makes the difference in achievement while a few others espoused that race is the strongest predictor.

The finding that RACE was the strongest predictor of the achievement of single-parent children requires the interpreter to remember that a high proportion of these children are adversely affected by social conditions such as urban poverty and poor schools. "Urban black children living with their mothers only had lower mathematics and verbal achievement than urban black children living with both parents" (Sciarra, 1975).

Furthermore, the research on single mothers shows "That they have great problems in supporting the family" (Smith, 1979), and "children of such mothers must assume adult roles early" (Moen, Kain & Elder, 1981). Although single life is hard for

mothers, single fathers in this sample could not cope as well as single mothers with school-related activities which are important in assisting children's achievement.

A cross section of 40 Australian single parents was administered an eight page 30-item questionnaire designed to generate information about the difference between males and females...Specifically, items dealt with demographic data such as age, income educational level, and number of children...The only significant differences found between mothers and fathers were variables such as income level, occupation and visiting patterns of the children. Father's income, level of education, and occupational status were found to be significantly higher and their general living conditions (in terms of housing) were considered to be better than those of single mothers (Berry, 1982).

The correlation between dropping out of high school and living in a one-parent family exists according to (Meeks, 1940). Various factors of life in a one-parent family have been identified as being related to the likelihood that girls may not complete high school. Among these factors are the length of time ever lived in a one-parent family level of family income..., educational level of the mother, and the girls knowledge of the world of work. Low income has been found as the most significant factor in the school performance. Not all researchers found income as detriment. One study by Mackie et. al. (1967) of 60 preschool

children from low income black families found that even though the income of the father-present families was almost double the income of the father-absent type, the correlation between income and I.Q. was only 17.

Deutehh, (1960) in an effort to assess the influence of income on the differences between two-parent and one-parent families, the study identified the number of children participating in free or reduced-price lunch programs. The functioning of children from low-income two-parent families were compared with low-income one-parent families. Again a substantially higher proportion of high achievers was found to come from two-parent family homes than from one-parent families.

Upon reviewing educational implications for the "School's Most Significant Minority," several studies warn teachers about expecting trouble from the child from a one-parent family.

> The diversity among research findings suggests that while, as a group, single-parent children tend to have more behavioral problems in school and are at greater risk in terms of truancy and drop-out rate, the likelihood of any particular child having cognitive or behavioral problems depends upon the interaction of many factors. Among these factors are the adequacy of child care arrangements; the number of siblings; the structure of the child's environment in both the home and the school; the amount of nurturing the child receives; the age, sex, and race of the child, the socioeconomic level of the family; and the circumstances

surrounding the separation of the parents. Therefore the only accurate answer to the question of whether single-parentness is harmful to a child's academic or behavioral development may well be "it depends" (Roddy, 1984 p. 4).

The consortium contracted Barton (1982) to analyze the correlations between family income, number of parents in the household, sex of the child, and student achievement. The original finding was that low student achievement tends to accompany living with a lone parent, and the question to analyze was whether or not this would hold true where these other factors were introduced.

Barton's analysis showed higher income girls with two parents ranked highest. This group was followed by higher income girls with one parent, then higher income boys with two parents.

In (1977) Sciara's study of 1073 reading and math scores of fourth grade black children in a midwestern metropolitan school system concluded that youngsters from father-present homes scored significantly higher than those from father-absent homes (Sciara, 1977). Another study agrees with the preceeding one and points to the negative effect of parental absence on the development of the ability of father-absent children to delay immediate gratification to obtain a later reward. This desire for immediate gratification was also shown to be related to lower achievement drives and lower levels of social responsibilities in the child (Michel, 1958; 1961).

An analysis of 77 studies on teacher expectancies led to

the conclusions that: Student...cumulative folder, information, race, and social class were related to teacher expectancies...the number of parents at home were not related to teacher expectancies" (Dusek, 1983 p. 327).

Socioeconomic characteristics exert much stronger effects on grade retention among Hispanic, Black, and White children than do family compositional factors. One important exception is that the probability of enrollment below model grade is much higher for Hispanic children living in single-parent households concluded Bianchi (1984 p. 184) in her investigation.

A study by Bornbusch (1985 p. 326) of a representative national sample of adolescents about the interrelationships among family structure pattern of decisions making concluded that mother-only households are shown to be associated with particular patterns of family decisions and adolescent deviance, even when family income and parental education are controlled.

The underlying variables representing the child's share of family time and financial resources have a more important effect on academic achievement than family size concluded that

> Probably children who stay with their mothers are better off than children with foster parents or relatives, and single-parent families seem to live on their own whenever they can afford...Also children in separate households, single-parent homes, gain the individual attention of their mothers and often establish extremely close supportive

relationships (Sholnick, 1980 p. 101).

Children from one-parent homes are clustered in certain particular neighborhoods and schools, but a study by DiSibie (1918, p. 21) concluded "that disruption in home life style accompanying death, separation, or divorce is probably severe enough to impair school performance to some degree..."

Results of a study indicate that children from one-parent families tend to move more, have lower achievement and according to Edgar (1982 p. 4).

> Lone-parent families also seem to suffer more health problems...Mother's housing is more likely to be renters and to be a flat than two-parent housing which is over-crowded and shared with others; less well-equipped telephones; fridges, clothes dryers or other household appliances (English et. al. 1978 p. 31). Hunt's study (1966) noted that mothers and fathers work longer hours without the support of a spouse, and often find evening part-time work which does not coincide with school hours (English et. al. 1978; Ferri, 1976 ch. 8).

LeGault (1985) researched and found significant differences were obtained in scholastic achievement using the Iowa Test of Basic Skills for 217 Negro children in the sixth grade in New York state when classified according to home background factors, including family income and one or two parents (Lockwood, 1966). Nichols' (1977) research findings agreed and recorded that

Given the factor of equal education opportunity, academic achievement of economically disadvantaged children white or black cannot be distinguished from nondisadvantaged white majority children (LeGault, 1985 p. 26).

Barton's analysis of the NAESP and the Institute for the Development of Educational Activities (IDEA) study of 14,000 students found students in the higher income reporting groups had higher means in achievement than did students in the lower groups (Zakariya, 1982 p. 101). Furthermore, this study was limited to data readily available in school files; family status, mobility; income (measured by the admittedly rough indicator of participation in subsidized lunch and Title I programs), achievement; referrals for disciplinary action and the like.

Many studies on detrimental effects of living in one-parent homes on girls and boys have asked teachers to rate their classroom behaviors. One such example: "From a study of middle school children showed that females, whether in intact, single parent, or reconstituted families received better ratings by teachers on classroom behavior, interpersonal relations with peers and level of adjustment" (Collins, 1981) (LeGault, 1985 p. 37).

Teacher attitudes, expectations, and school requirements when focused on the student's abilities in a positive way, can nurture self-discipline, which will in turn improve academic skills and knowledge.

For example, Etzioni's study of James Coleman's et. al.

comparing public and private schools stressed

> That high-performing private schools complete an average of 3.8 to six hours more homework than students in both public or Catholic schools. He found a relationship between the amount of time spent on homework and teacher interest in their students. Etzioni concluded that teachers in high-performing schools expect students to do more homework. He warns that schools can...foster high achievement...To do this, homework must be properly organized (Strother, 1984 p. 425).

The aforementioned study shows that other variables than income, sex of single-parents and sex of child have effects on students' academic achievement; also overall

> Studies on the effects of the single-parent family on a child's school performance have been contradictory. Some studies find little or no difference between children from intact families and those from single-parent families, while others find that children do more poorly when raised in a single-parent situation (DiSibie, 1981 p. 19).

Hartnagel (1970) found that the effect of a father's absence varies with the age of the child. Wasserman (1972) reported that boys between 10 and 16 years of age showed no significant difference in school performance between those from one-parent and two-parent families.

The effect of living with a male or female head of household

on achievement in math should not be viewed in simple terms of cause and effect relationship. The single head of the household however, may be considered an indication of potential difficulty for some students.

> With an increasing number of black children living with female-heads-of-households more male models might be needed in the elementary schools. Schools cannot replace the family, but they can develop a set of experiences not now available at home (Sciara, 1977 p. 469) (Barnett, 1967 p. 178).

Summary

The important purpose of this study was to find what relationship if any exists between school performance and number of parents. The dramatic increase of single parents has meant that the schools have become the other consistent main institution in the students' lives. In the elementary school learning is disrupted in 50% of children of divorce along with frequent mobility of low-income-mother-headed families.

> On the other hand, in our study we are seeing different kinds of interruptions in learning among nine, ten, eleven, and twelve-year olds...We are finding some delinquence and some restlessness... Two-fifths of the children perform academically below the average...(Weiss, 1979 p. 59).

A significant amount of research has been done on academic achievement and one and two parent families. Studies in the 50's and 60's focused on parental separation because of death

and war. Later studies found divorce and other causes relative to single parentness. Results of these show differences of opinion about the detriment of single-parent status on academic achievement. Many other studies show that not only are these children experiencing a diminution in academic but also in peer relationships, social and acting-out behaviors.

Chapter III

RESEARCH DESIGN, METHODOLOGY AND PROCEDURES

DESIGN OF THE STUDY

Introduction

For this study on the academic performance of eighth grade boys and girls from one and two-parent homes, the following controls and variables were used.

I. Control

- A. Iowa Test of Basic Skills (ITBS)
- B. Grade Level eighth
- C. (ITBS) Scores (Reading, Math, Science, Social Studies and English)

II. Predictor Variables (Independent)

- A. Mother-Headed Homes
- B. Father-Headed Homes
- C. Homes headed by both parents
- D. Boys and Girls
- E. Boys
- F. Girls

This chapter of the study is oriented towards clarifying the overall research design and methodology. The statement of the problem indicated that the public schools are still structured around traditional styles of family living. They have not changed from the hours that pose problems for working single parents. Teachers and administrators assume that both parents are in the

home or they whisper that Johnny's misbehavior is to be expected because, after all, his mother (or father) is a divorcee.

Hypothesis

One hypothesis and seven sub-problems were formed to test the relationship between schools performance and family status as measured by the ITBS scores in Reading, Math, Social Studies, Science and English. Stated in the null form the hypothesis are as follows:

Hypothesis

There is not significant difference in the academic achievement scores of eighth grade boys and girls from one-parent homes than those from two-parent homes.

Subproblems

Are eighth grade boys and girls from homes with both parents higher academic achievers than those from homes with single parents?

Are eighth grade boys from homes with fathers as the only parent higher achievers than girls from homes with both parents?

Are eighth grade boys from homes with father as the only parent higher achievers than boys from homes with both parents?

Are eighth grade girls from homes with mothers as the only parent higher achievers than girls from homes with both parents?

Are eighth grade boys from homes with mothers as the only parent higher achievers than those with fathers as the only parent?

Are eighth grade girls from homes with fathers as the only parent higher achievers than those with mothers as the only parent?

Collection of Data

In this investigation, in order to determine family status, the free lunch applications were used to identify family status. The criterion variables of academic achievement were test scores from the ITBS in the areas of reading, math, science, social studies, and English.

In order to procure and utilize test scores and free-lunch applications, the researcher wrote letters of request to Dr. Erwin Brown, Director of Research and Evaluation at the Board of Education.

The criterion variable, academic achievement was measured by the Iowa Test of Basic Skills (ITBS). The tests were given in April 1985 in the areas of reading, math, science, social studies and English.

> The (ITBS) scores reflect the continuous nature of skill development in each of the eleven basic skills, a single wide-range test is provided to represent the range of skills development from low grade three through superior grade nine. Each of these tests is organized into six overlapping levels of skills development...Standardization Sample. 10,947 pupils from 86 schools participated in the standardization of the ITBS composite scores to make them comparable to the HBS norms (Hieronymus et al...1980).

For some time, this researcher's experience as an administrator in the public schools and as a former counselor has motivated

an interest in devising a means of having schools become more sensitive to the problems that one-parent students face daily. The researcher is also interested to have administrators assist teachers to become more sensitive to the problem of what is known as the school's largest minority.

Discipline problems, low income, and lack of input from the missing parent accompany these children to school. Teachers usually do not know about a childs one-parent status until there is a problem. Trouble-making, withdrawal or academic failure become visible before most teachers decide to discover more about the home situation. Those who inaccurately report the school's percentage of lone parents as lower than the actual figure are not necessarily insensitive but rather not properly informed. Both parents and children tend to hide the facts of marital break-up as long as possible. Shyness, embarrassment and feeling it is 'not the schools business' result in school's records being incomplete. Often the principal or a few teachers will know without passing.

The dependent variable or achievement (ITBS) scores were selected to provide a comprehensive picture of the school performance of eighth grade students in the areas of Reading, Math, Science, Social Studies and English. This study examined possible relationships of significance by including the independent variables or predictor variables of one-parent and two-parent homes.

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Description of Sample

The population of this study included eighth grade boys and girls from three Chicago elementary schools (n=302). The students' family status was identified from the free-lunch applications. A few of the students who applied were found to come from homes whose income was too high to qualify for a free lunch. These pupils paid a reduced price or a full price. However, 80% of the children in the study qualified for a free lunch. The sample population was as follows: 110 from Van Vlissengen; 105 from Curtis, and 86 from Hinton.

Summary

This study was designed to test whether there is a significant difference in academic performance of eighth grade students from one-parent homes and those from two-parent homes in the area of reading, math, science, social studies, and English. School records pertaining to academic achievement, and free-lunch applications were used to collect the data to complete this study. This chapter presented the design and procedures which made the testing for relevant significant relationships.

The findings showed no significant difference in the total sampling population when all subjects were compared, but significant differences surfaced when comparisons were within the groups tested. Although the hypothesis did not hold true for all subproblems, other data such as number of children in the families, lower grade level students, and sources of family

income, could give support to the hypothesis. A follow-up study could choose to use all or one of the above variables listed for the desired finding.

Chapter IV

FINDINGS OF THE STUDY

Introduction

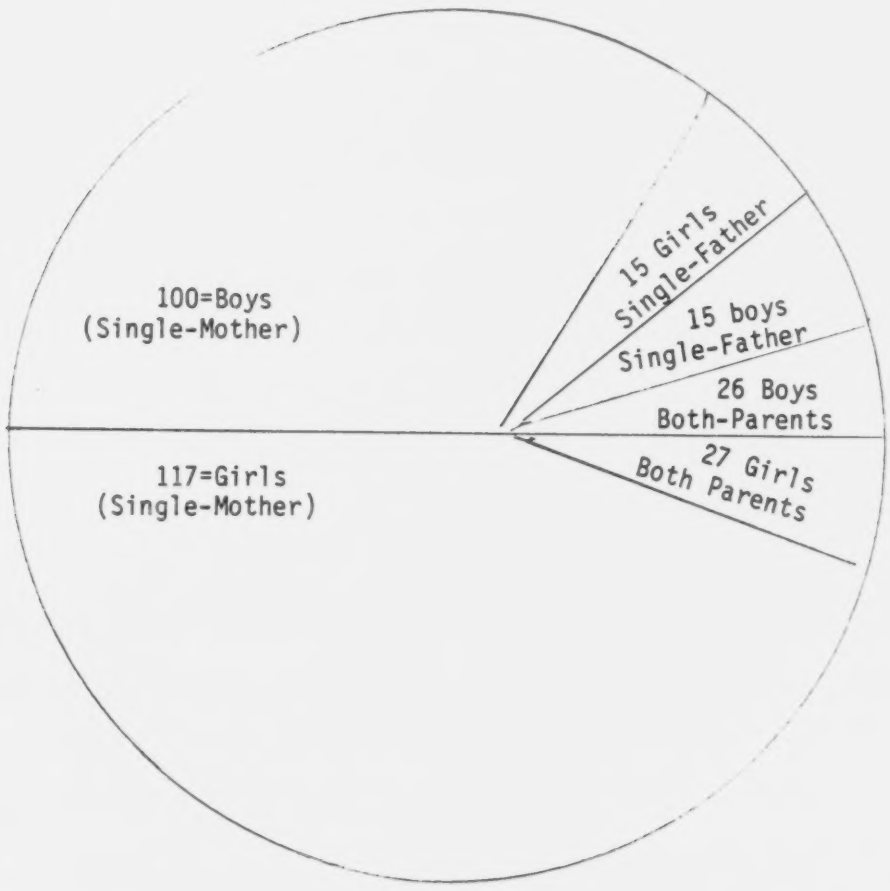
This chapter presents the findings of the study on school performance and parental status. It begins with data from the testing of the hypothesis with a two by three analysis of variance (ANOVA). Tables of statistics are presented for the hypothesis and each of the seven subproblems. An analysis of each table is included. Where tables are significant two-way or three-way interactions, tables of means is given. See appendix.

This information is followed by table I showing descriptive statistics relative to the educational performance of all subjects and family status, and a narrative accompanies the results of the findings.

Hypothesis

The hypothesis states there is no significant difference in the academic achievement of eighth grade boys and girls from one-parent homes than those from two-parent homes.

DIAGRAM I



N = 301

This diagram shows a breakdown of sample population of boys and girls in this study along parental status lines. When tested it was found that there is no significant difference in academic achievement of eighth grade boys and girls from one-parent homes than those from two-parent homes. Comparing the mean scores of boys and girls in this study showed no significant difference in the areas of reading, math, science, social studies, and English.

	reading	math	science	social studies	English
(Boys) male	6.45	7.01	6.50	6.18	6.43
(Girls) female	6.46	7.15	6.14	6.30	6.28

Totaling the mean scores of the boys showed 32.87. A total of the mean scores of girls in this table yielded 32.33. Thus the finding using all 301(+1) subjects showed that neither of the main effects were significant. The sex of the student was not significant and neither was the parent situation. The interaction of sex (of child) and parent situation was also not significant.

Subproblem A

Are eighth grade boys and girls from homes with both-parents higher academic achievers than those from homes with single-parents?

When tested for comparing the school performance of boys and girls from homes with both parents with those from homes with single parents, there was a slight significant difference as shown in this table of mean scores

	Both Parent	Father	Mother
Girls Boys	7.12	7.46	7.02

Boys and girls from father-headed homes achieve higher academically than boys and girls from both parents and from mother-headed homes. Note Table

Subproblem B asks whether eighth grade boys from mother-headed homes are higher achievers than boys from homes with both parents.

The interaction between boys means scores from both parents showed lower academic achievement than boys from homes with the father as the only parent.

Father-Only	Mean	St.D.	Variance	N = 301(+1)
Boys	7.7067	1.4801	2.1907	N = 15
Mother-Only	6.8475	1.6326	2.6655	N = 100(+1)
Both	7.2154	1.2012	1.4430	N = 26

When tested eighth grade boys from mother-headed homes are lower achievers than boys from homes with both parents.

Testing showed that boys with father as the only parent achieve higher in math than boys with mother as the only parent as well as boys with both parents. See Tables IV and V.

Girls with father only achieve higher in math than girls from mother only homes and homes with both parents.

Scores on ITBS in math

		Father-Only	Mother-Only	Both Parents
Boys	x	7.71	6.85	7.22
	Sd	1.48	1.63	1.20
Girls	x	7.22	7.17	7.02
	Sd	1.28	1.47	1.38

Boys with father as the only parent achieve higher in math than boys from homes with both parents.

Subproblem C asks are eighth grade girls from homes with father as the only parent higher achievers than girls from homes with both parents.

	Father	Both Parents
Boys	7.7067	7.2154
Girls	7.2200	7.0222

Girls with father as the only parent are higher achievers than girls from homes with both parents. Also, boys with father as the only parent are higher achievers than boys from homes with both parents.

Eighth grade girls from homes with fathers as the only parent are lower achievers than girls from homes with both parents. Mean scores for girls with both parents 33.54 compared to 31.93 for girls with father-headed homes when tested.

Subproblem D

Boys from father-headed homes are higher achievers than boys from homes with both parents. Their mean scores were higher in math, reading, social studies and English. When tested the total average mean scores were 35.05 compared to 33.88 for boys with both parents.

Subproblem E

Girls from homes with mother as the only parent were lower achievers academically than girls from homes with both parents. Testing yielded a mean score of 33.54 for girls with both parents compared to 32.12 for girls with mothers as the only parent.

Subproblem F

Eighth grade boys from mother-headed homes are lower achievers academically as those from father-headed homes. Their mean

scores were lower in the areas of math, reading, science, social studies, and English with a mean score of 31.88 as compared to 35.05 for the boys from the father-headed homes.

Subproblem G

Girls from homes from fathers as the only parent achieve higher than girls from homes with mothers as the only parent in the area of math and science; however, higher means were recorded for girls from other-headed homes in the areas of reading, social studies and English.

Summary

Academic achievement has a statistically significant relationship with father in the home. From this table one can conclude that father has positive influence on the scores in math for both boys and girls where father is the only-parent. Father influences the scores in reading next to girls with both parents. In reading, single fathers and both parents were higher achievers. Father only with boys were higher in the area of science. Girls with both parents scored higher academically in social studies, yet father-headed boys performed higher than either mother-only girls and boys. Again father-headed boys performed higher than homes with both parents. See Table III

In math boys with father as the only parent achieved higher than boys from homes with both parents and girls from father-headed homes. (See Tables IV & V).

Chapter V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to determine whether the relationship that exists between school performance and family status differs from one-parent and two-parent eighth grade students. This was studied by analyzing students' academic achievement scores and the number of parents in the homes.

This study occurred at an advantageous time because of the nation's recent awareness of the increase of divorce, separation, children having babies, and the number of births from single professional women. Also, recently, Americans are realizing that children from these situations suffer trauma.

The underlying variables that result from these traumatic situations such as lower income, psychological, social, personality, and physical may affect school performance, attendance, and behavior. To help pupils reach their potential, schools cannot afford to ignore this social problem. Society however, does realize that the absence of one parent means the absence of a significant adult in the role of parent and spouse in the daily lives of the family. The remaining parent is left to provide income, guidance, love, maintenance, and child care.

Literature on school achievement and family status varies as to whether living with only one parent makes a significant difference or whether the sex of the parent makes a difference.

Many studies tended to find a significant difference.

The statistical tool of a two by three analysis of variance was the principle method of analysis. The investigator's model had three independent variables; both-parents, mother-only and father-only. Test (ITBS) scores and eighth grade level were used to ascertain whether the boys and girls live with a single mother, single father, or with both parents.

The population for this study consisted of all of the eighth grade pupils from three schools whose students had submitted free lunch applications and who also had taken the Iowa Test of Basic Skills (ITBS). This left 301 subjects in the study.

The hypothesis and seven sub-problems were tested using private computer equipment. The level of significance was set at .05.

The hypothesis was tested for a relationship between academic achievement and parental status. No significant relationship was found between academic achievement and family status with the total population. testing between groups showed slight significant differences.

Subproblem A

When all 301 subjects were compared parents affect English scores $p<.08$ where mother-only students were lower.

Sex affects science score $p<.05$ where boys scored higher than girls.

Parents affect social studies scores $p<.05$ showed a linear

trend when graphed with mother-only students lower. Also, families with both parents were superior to mother-only in the areas of social studies, reading and English.

Families with father-only boys were superior to mother-only in both science and math.

When father-only boys were compared with boys from both parents, it tested out that sex of single parent affected science scores. Boys scored higher from father-only homes than boys with both parents.

When father-only was compared to mother-only:

a. Sex affected science scores p.<10 found males scored higher.

b. Parents affect science scores p.<.06 where father-only students scored higher.

c. Parents affect quant (science & math) scored p<.06 where father-only students scored higher than mother-only students.

Mother-only students scores compared to scores from both parents found students with both parents performed higher. Again sex affected the science scores where boys scored higher than girls.<p.09. Boys and girls from homes with both parents scored higher in social studies p<.05. Parents affected those scores.

Boys and girls from homes with both-parents scored higher on verbal (reading, English and social studies) scores than boys and girls from homes with mothers as the only-parent. See Diagram Pg.

Finally, in the areas of math, reading, English, science

and social studies students in father-only households tested higher. This study found that whether there is one or two parents in the households is not significant.

The significant difference tends to point to the sex of the parent, and in the cases of math and science, the sex of the child was a determinant of academic achievement.

Conclusions and Recommendations

Based on the findings of this study, family status and sex have a significant relationship to school performance as measured by academic achievement when controlling for educational ability and grade level.

These findings, which are valid only for eighth grade students from a lower economic status, have some implications for teachers, counselors and particularly administrators. Although academic achievement does not appear to show significant differences between one and two-parent family students, school performance for eighth grades with a father in the homes tended to be higher in all subject areas. Administrators should anticipate that problems may surface in the school performance as early as the fourth grade level where many pupils have mothers as the only parent. Lower income, loneliness, lack of moral support of a spouse may cause lack of interest in the child's education.

The schools may need to consider providing a father figure by hiring more male figures in the schools in the performance of all of the school's businesses. The administrator should

become aware and identify the students who have a lone parent. Teachers and all school personnel should be given workshops to cope productively with this growing problem.

Summary

Also educators should invite extracurricular activities in the schools for after hours such as music, art, games, sewing, singing, and remedial tutoring classes. Teachers should not conclude that students from one-parent homes are lower achievers.

The investigator recommends additional studies of family status and intermediate school performance. Future researchers should study the reasons for the one-parent situation along with the grade level.

Conclusion

In conclusion: although the null hypothesis held true, and the findings from my research did not prove my hypothesis, I still feel from my experience with children at school that the absence of one or the other parent affects the academic achievement of children from one-parent homes. I agree with much of the findings from my research of related literature that father absence has a greater impact on the school performance which was supported in my investigation where test scores from children from father headed homes were higher (for all subjects) than those from homes with mother as the only parent or from homes with both parents. Perhaps future studies should use.

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Table I

Description of Population

Variable	Value Label	Mean	SD	N
Math	Boys	7.0056	1.5627	142
Father	Boys	7.7067	1.4801	15
Mother	Boys	6.8475	2.6655	100(+1)
Both Parents	Boys	7.2154	1.2012	26
Math	Girls	7.1525	1.4357	160
Father	Girls	7.2200	1.6360	15
Mother	Girls	7.1737	1.4749	117+1
Both Parents	Girls	7.0222	1.3835	27
English	Boys	6.4310	1.6922	142
Father	Boys	6.9133	1.5743	15
Mother	Boys	6.2703	1.7197	101
Both Parents	Boys	6.7769	1.6013	26
English	Girls	6.2831	1.4695	160
Father	Girls	6.1600	1.3152	15
Mother	Girls	6.1958	1.5017	118
Both Parents	Girls	6.7333	1.3686	27
Reading	Boys	6.4521	1.6344	142
Father	Boys	6.7600	1.8969	15
Mother	Boys	6.3485	1.6494	101
Both parents	Boys	6.6769	1.4197	26
Reading	Girls	6.4644	1.4902	160
Father	Girls	6.1133	1.3426	15

(table continues)

Table

Description of Population

Variable	Value Label	Mean	SD	N
Mother	Girls	6.4288	1.5011	118
Both Parents	Girls	6.8148	1.5053	27
Science	Boys	6.5028	1.6368	142
Father	Boys	7.1200	1.1315	15
Mother	Boys	6.3653	1.7069	101
Both Parents	Boys	6.6808	1.5497	26
Science	Girls	6.1400	1.4135	160
Father	Girls	6.4933	1.0820	15
Mother	Girls	6.0847	1.4640	118
Both Parents	Girls	6.1852	1.3620	27
Social Studies	Boys	6.1824	1.6669	142
Father	Boys	6.5533	1.5624	15
Mother	Boys	6.0396	1.7058	101
Both Parents	Boys	6.5231	1.5425	26
Social Studies	Girls	6.3037	1.5280	160
Father	Girls	5.9533	1.2380	15
Mother	Girls	6.2373	1.5804	118
Both Parents	Girls	6.7889	1.3704	27

Table

Analysis of Variance - Summary Table (Math)

Sources of Variation	Sum of Squares	df	Means of Squares	F	Signif of F
Main Effects	6.954	3	2.318	1.039	.376
Sex	1.773	1	1.773	.794	.373
Parent	5.332	2	2.666	1.195	.304
2-way-Interaction	6.289	2	3.144	1.409	.246
Explained	13.245	5	2.649	1.187	.315
Residual	660.473	296	2.231		
Total	673.717	301	2.238		

302 cases processed (0% were missing)

P<.05 need to be significant

Table

Analysis of Variance - Summary Table (English)

Sources of Variation	Sum of Squares	df	Means of Squares	F	Signif of F
Main Effects	14.278	3	4.759	1.926	.125
Sex	1.407	1	1.407	.569	.451
Parents	12.634	2	6.317	2.557	.079
2-way-Interactions	3.177	2	1.588	.643	.526
Sex Parent	3.177	2	1.588	.643	.526
Explained	17.455	5		1.413	.219
Residual	731.317	296			
Total	748.317	301			

P<.08 = Parents affect English scores *Mother only lower

302 cases were processed 0% (were missing)

Table

Analysis of Variance - Summary Table (Reading)

Sources of Variation	Sum of Squares	df	Means of Squares	F	Signif of F
Main Effects	5.430	3	1.810	.744	.527
Sex	.024	1	.024	.010	.921
Parents	5.419	2	2.710	1.113	.330
2-way-Interaction	3.715	2	1.857	.763	.467
Sex Parent	3.715	2	1.857	.763	.467
Explained	9.145	5	1.829	.751	.586
Residual	720.587	296	2.434		
Total	729.732	301			

Table

Analysis of Variance - Summary Table (Science)

Sources of Variation	Sum of Squares	df	Means of Squares	F	Signif of F
Main Effects	19.521	3	6.507	2.813	.040
Sex	9.367	1	9.367	4.050	.045
Parents	9.618	2	4.809	2.079	.127
2-way-Interaction	1.116	2	.558	.241	.786
Sex Parents	1.116	2	.558	.241	.786
Explained	20.638	5	4.128	1.784	.116
Residual	584.688	296	2.311		
Total	705.325	301	2.343		

Boys score higher in science $p<.05$

Table

Analysis of Variance - Summary Table (Social Studies)

Sources of Variation	Sum of Squares	df	Means of Squares	F	Signif of F
Main Effects	12.477	3	4.159	1.648	.178
Sex	1.272	1	1.272	.504	.478
Parents	11.369	2	5.685	2.252	.107
2-way-Interaction	4.490	2	2.245	.889	.412
Sex Parent	4.490	2	2.245	.889	.412
Explained	16.967	5	3.393	1.344	.246
Residual	747.124	296	2.524		
Total	764.091	301	2.539		

302 cases processed P<.10 = Father-only

boys and girls had higher scores in social studies.

Table III

Mean Scores for Boys and Girls along Parental Lines

Girls	N	Math	Reading	Science	Soc. Stud.	English	Total
M-O	101	7.1737	6.4288	6.9847	6.2373	6.1958	32.12
F-O	15	7.2200	6.1133	6.4933	5.9533	6.1600o	31.93
B-P	26	7.0222	6.8148	6.1852	6.7889	6.7333	33.54
Total	142						
Boys	N	Math	Reading	Science	Soc. Stud.	English	Total
M-O	118	6.8475	6.3485	6.3653	6.0396	6.2703	31.88
F-O	15	7.7067	6.7600	7.1200	6.5533	6.9133	35.05
B-D	27	7.2154	6.6769	6.6808	6.5231	6.7769	33.88
Total	160						

RAW SCORES

(15) Girls -- Single Parent (Father)

Math	English	Reading	Science	Sc	Studies
8.1	6.9	6.8	6.9		7.4
8.6	5.9	6.8	7.6		6.6
8.7	6.9	7.1	6.9		6.0
7.5	6.7	8.0	7.9		5.6
8.6	7.4	7.6	8.4		7.6
7.8	6.2	7.9	6.8		7.6
7.3	8.8	6.9	5.8		6.9
6.1	6.5	5.4	6.2		5.0
6.5	6.2	6.2	6.6		6.0
8.4	5.9	5.6	7.4		6.9
6.7	6.1	5.4	6.0		6.1
4.6	4.2	3.4	4.5		3.6
8.0	5.7	4.6	5.8		4.5
5.4	3.0	4.6	5.0		4.5
6.0	6.0	5.4	5.6		5.0

RAW SCORES

(15) Boys -- Single Parent (Father)

Math	English	Reading	Science	Social Studies
8.6	6.6	6.6	6.6	6.0
7.9	3.3	3.4	7.3	6.0
8.1	5.9	6.4	6.9	6.4
8.5	9.0	8.9	8.5	8.7
9.2	8.6	8.7	9.0	8.7
8.7	6.7	6.6	7.9	6.7
7.0	6.2	5.4	5.8	5.6
5.5	7.2	4.9	5.0	6.0
4.5	4.3	3.6	5.8	5.0
7.4	6.5	5.4	6.2	3.7
9.9	8.6	9.2	7.6	9.2
8.3	8.0	7.9	8.3	7.2
8.2	7.8	8.2	6.6	6.0
5.6	7.2	7.6	7.3	5.0
8.2	7.8	8.6	8.0	8.1

RAW SCORES

(27) Girls -- Both Parents

Math	English	Reading	Science	Social Studies
6.2	6.0	6.0	5.8	7.2
4.9	6.7	8.2	4.6	6.3
7.4	7.3	6.6	6.6	6.0
8.7	8.8	7.1	5.4	4.6
10.0	9.6	8.5	6.2	7.2
5.4	7.4	5.4	4.2	6.9
7.0	6.8	6.9	6.6	6.9
7.5	5.5	6.8	7.4	6.5
7.2	6.9	6.8	7.0	6.9
6.9	8.0	7.1	5.8	5.6
9.6	8.0	7.4	6.2	6.6
6.7	6.8	7.4	7.0	7.9
7.3	7.0	7.9	7.0	7.9
7.3	7.0	7.9	6.8	7.9
9.3	9.0	11.0	9.8	10.0
6.5	6.2	7.9	7.3	7.7
6.5	6.0	5.6	6.0	5.9
6.1	6.0	5.6	5.0	6.0
6.6	(6.0)	5.6	6.0	5.9
7.4	5.4	5.4	4.2	6.9
5.2	5.0	4.3	4.8	4.9
5.2	5.2	5.4	5.3	5.9

(raw scores continued)

Math	English	Reading	Science	Social Studies
5.8	4.4	5.7	5.6	5.9
7.1	6.5	5.3	5.0	5.8
8.5	8.0	9.3	8,7	9.8
8.3	8.0	8.0	8.1	9.2
5.0	4.0	4.9	4.6	5.0

RAW SCORES

(26) Boys -- Both Parents

Math	English	Reading	Science	Social Studies
6.2	4.3	5.8	5.0	6.3
6.3	6.2	6.1	5.1	6.1
9.3	9.1	8.7	8.9	8.8
6.8	4.9	8.0	3.4	8.7
6.2	7.0	6.5	6.1	6.4
6.4	6.4	6.5	6.9	7.0
7.1	5.1	6.2	5.4	4.3
6.2	6.1	6.6	6.2	5.3
7.8	8.1	7.4	5.4	6.0
5.8	5.4	5.1	6.6	6.0
7.2	6.1	5.1	6.8	6.1
8.0	7.7	5.8	7.0	6.9
8.7	10.0	8.5	7.3	4.3
6.0	4.9	4.6	6.9	4.3
7.0	7.0	5.4	5.8	6.0
6.6	4.3	4.4	6.5	5.6
4.7	4.0	4.1	4.5	4.2
8.8	7.2	8.2	8.5	8.0
9.6	8.1	9.1	7.9	10.0
8.1	7.8	7.4	5.4	6.0
6.6	8.0	7.4	10.5	8.7
7.8	8.2	7.7	6.2	5.3

(raw scores continued)

Math	English	Reading	Science	Social Studies
7.3	8.6	8.2	7.9	7.2
7.6	6.7	7.2	7.6	7.0
9.0	8.4	8.0	9.0	8.5
6.5	6.6	5.6	6.9	6.6

RAW SCORES

(100) Boys -- Single Parent (Mother)

Math	English	Reading	Science	Social Studies
7.0	5.6	5.4	5.8	5.6
5.7	4.6	3.4	5.0	5.3
6.4	6.3	6.1	6.6	7.2
8.9	6.1	5.6	3.9	6.9
9.9	8.6	7.2	8.9	7.7
8.3	6.4	7.1	7.6	6.3
9.4	7.2	7.9	6.2	6.6
7.4	6.9	5.8	7.9	5.6
7.9	7.5	7.2	7.6	6.6
4.3	4.2	4.6	4.2	5.0
7.1	6.4	5.4	8.9	6.6
5.5	4.3	4.9	5.4	4.8
6.0	5.9	5.4	5.8	5.4
5.6	4.6	3.7	(5.0)	(5.3)
4.9	4.6	6.4	3.6	4.6
7.3	5.7	6.6	8.3	4.6
5.3	7.5	6.0	7.9	6.3
7.9	6.6	6.0	7.3	4.6
7.6	8.0	7.4	8.6	5.6
6.7	6.9	7.6	5.0	7.2
7.8	6.1	6.9	4.2	6.0

(raw scores continued)

Math	English	Reading	Science	Social Studies
8.2	9.0	8.2	6.9	7.7
6.9	6.5	6.3	6.2	4.6
7.6	2.3	5.1	5.0	4.7
7.5	5.2	7.2	4.2	6.0
8.7	10.0	8.5	8.3	10.7
8.7	7.4	6.2	7.0	6.4
5.7	5.7	6.4	5.4	5.0
6.6	6.6	8.0	8.3	6.9
7.8	6.0	6.2	5.4	6.9
6.6	6.9	8.3	10.5	7.1
6.0	6.2	6.4	5.8	5.6
6.6	8.6	6.6	2.9	5.0
4.3	6.9	5.6	6.9	4.3
6.2	7.7	6.0	4.6	4.6
	5.9	6.6	5.0	6.9
4.5	5.0	6.0	7.3	5.0
5.7	5.8	3.9	5.0	6.0
3.9	7.7	5.1	5.8	6.0
4.4	5.5	5.4	5.0	3.7
4.4	6.2	5.1	4.6	5.3
5.7	5.8	4.4	7.3	5.0
5.9	7.4	6.6	5.4	6.0
3.6	3.8	4.1	3.6	4.0
3.5	2.9	4.9	6.6	4.3

(raw scores continued)

Math	English	Reading	Science	Social Studies
6.9	4.3	4.9	4.2	5.0
5.9	5.2	5.4	5.1	5.0
7.1	5.9	5.6	6.6	6.4
8.6	7.5	8.3	6.9	5.0
4.5	3.9	3.6	4.0	3.6
5.9	4.4	3.4	4.0	3.3
4.5	5.5	5.4	5.1	4.0
8.0	8.1	7.8	7.9	7.9
8.0	7.7	7.6	5.8	7.7
9.1	9.7	8.7	8.6	10.3
8.7	10.3	9.3	10.7	10.5
8.3	8.6	8.7	8.9	6.9
8.1	11.0	11.0	7.6	9.8
6.0	4.3	5.6	6.2	4.0
6.0	5.2	4.9	7.3	3.4
7.1	5.7	4.1	5.4	4.3
5.9	4.9	5.6	6.2	5.0
8.9	7.4	8.2	7.5	8.5
7.2	7.2	8.0	7.2	7.0
7.0	4.6	7.9	6.9	5.6
5.6	4.3	5.3	4.9	5.0
5.2	2.7	4.9	3.6	4.6
4.1	4.0	3.9	4.0	3.6
5.0	4.2	3.4	4.2	3.4

(raw scores continued)

Math	English	Reading	Science	Social Studies
2.8	3.3	3.3	2.9	3.2
4.1	2.5	3.2	2.1	3.0
4.3	4.1	4.1	3.9	4.0
8.3	8.2	9.6	8.4	9.0
7.3	7.4	7.2	7.5	6.9
8.5	6.9	7.9	8.2	7.2
8.0	7.8	9.3	8.1	8.9
8.4	7.4	7.2	8.2	7.5
6.3	6.2	6.8	6.9	6.3
8.9	6.7	7.7	5.8	6.2
9.3	5.2	6.2	8.0	6.5
8.3	6.9	6.6	6.5	6.3
8.5	4.9	6.9	8.2	6.5
8.0	4.4	6.3	6.5	4.5
6.5	4.8	6.3	4.9	4.6
8.3	7.4	8.0	7.5	7.5
9.1	7.2	7.7	6.9	6.0
6.9	6.1	6.8	6.2	6.3
9.7	10.3	8.9	8.9	11.0
7.0	6.1	4.3	8.3	5.6
7.9	7.2	7.4	7.1	7.0
6.5	6.6	5.6	6.9	6.6
6.3	5.6	5.7	5.2	5.0
6.3	6.2	7.6	6.5	6.9

(raw scores continued)

Math	English	Reading	Science	Social Studies
7.6	7.2	6.9	7.0	6.4
8.0	5.9	7.6	6.9	7.5
6.2	6.1	7.4	6.9	7.0
7.3	7.7	8.3	6.9	7.9
11.2	8.6	9.8	9.0	9.3
7.0	6.7	6.2	6.9	6.8
7.9	7.9	3.4	7.3	4.3
7.7	6.2	5.8	6.9	7.0

RAW SCORES

(117) Girls -- Single Parent (Mother)

Math	English	Reading	Science	Social Studies
6.9	7.0	8.0	7.2	8.1
4.4	3.3	5.6	4.6	5.9
6.2	6.6	7.2	6.2	6.6
6.3	3.3	4.4	6.2	3.4
4.7	2.9	2.3	3.6	2.8
5.7	4.6	5.1	4.2	5.3
6.4	3.3	4.4	5.0	5.3
4.8	5.2	3.4	5.4	3.4
4.0	4.1	4.3	4.2	4.6
4.2	2.3	3.9	5.4	4.6
9.0	7.5	7.6	8.5	7.7
10.0	9.0	9.0	9.0	8.5
7.0	5.7	5.1	6.5	6.9
8.8	7.0	8.7	8.6	8.5
8.3	7.4	6.9	8.2	7.5
7.1	6.9	6.9	6.7	6.8
7.9	4.9	6.8	6.5	7.3
6.9	6.4	6.9	6.3	6.5
7.6	5.7	6.4	7.2	6.3
7.4	6.4	6.4	7.1	6.9
6.9	7.2	6.0	6.9	7.1
4.6	2.9	2.8	3.6	3.7

(raw scores continued)

Math	English	Reading	Science	Social Studies
6.3	5.5	5.8	6.2	7.4
5.4	5.2	5.4	4.6	4.3
8.6	8.8	6.4	7.6	7.9
6.8	5.5	6.4	6.6	5.6
7.4	6.4	6.4	5.0	6.3
8.0	6.4	6.9	5.8	6.3
6.5	7.5	6.8	6.9	6.3
8.9	6.9	7.4	9.2	7.2
7.9	6.7	7.4	6.6	7.4
8.4	5.2	7.1	4.6	5.3
7.2	6.6	7.1	7.3	5.6
8.0	5.2	7.1	5.4	5.3
7.7	6.2	5.8	8.3	7.7
8.4	7.8	7.4	9.2	7.4
8.1	6.9	7.1	5.4	6.3
8.5	6.7	7.7	7.3	7.7
6.8	6.7	5.6	6.2	6.3
7.2	7.2	6.4	6.6	6.0
6.1	5.5	6.6	3.6	5.0
7.3	6.6	6.2	3.4	5.3
8.0	6.6	5.8	8.3	6.3
8.0	6.7	8.6	6.6	6.3
7.5	4.3	6.2	5.0	7.2
8.7	7.7	7.1	7.9	9.0

(raw scores continued)

Math	English	Reading	Science	Social Studies
6.8	6.4	6.2	6.1	6.0
8.5	8.0	7.9	8.6	8.7
6.5	6.9	6.6	5.8	7.2
7.3	5.7	7.4	4.6	5.3
8.4	6.1	4.6	4.6	3.4
6.4	4.3	4.9	5.4	5.3
7.2	5.0	6.2	6.9	4.3
6.1	6.5	6.3	5.4	7.2
7.8	5.6	4.9	5.8	6.3
6.7	5.9	6.2	4.6	6.0
8.1	6.6	8.3	6.6	7.7
7.0	7.8	7.4	6.9	7.7
9.0	9.6	10.0	6.9	6.9
9.0	9.3	8.3	7.3	7.7
8.6	8.2	7.6	5.8	7.2
6.4	8.4	8.5	7.6	7.9
8.7	8.8	7.1	5.4	4.6
5.9	6.1	6.2	4.6	6.0
6.5	6.1	6.3	5.4	7.2
5.3	5.5	6.2	8.3	5.3
6.8	4.9	6.0	5.4	5.3
8.2	5.9	6.4	5.4	7.7
8.5	5.9	6.8	8.9	7.2
7.8	5.5	5.6	4.6	4.6

(raw scores continued)

Math	English	Reading	Science	Social Studies
7.7	5.5	6.6	5.8	5.8
9.7	8.2	7.2	6.9	7.6
7.7	8.0	8.3	7.9	8.5
8.7	5.9	6.8	5.4	6.9
8.5	7.0	7.2	7.0	7.5
5.1	6.7	9.6	6.2	6.0
8.7	6.1	8.5	5.8	6.3
7.2	5.9	7.6	5.4	6.6
9.6	6.7	8.2	6.9	8.6
7.7	7.1	8.3	7.0	8.6
9.1	7.4	8.0	7.9	8.7
9.6	7.7	7.9	7.7	8.1
9.8	7.4	7.7	7.5	8.2
7.1	5.7	8.5	7.2	8.9
9.3	7.7	8.7	6.9	8.9
9.9	8.6	7.9	7.9	8.0
7.8	7.8	6.2	7.0	6.9
6.6	6.7	6.8	6.5	7.0
8.3	7.4	6.2	6.0	6.9
6.5	5.5	6.0	5.8	6.1
7.9	7.3	7.6	6.9	7.9
6.4	5.5	6.2	3.9	3.9
5.3	6.2	6.9	4.6	5.6
6.2	5.9	6.6	4.2	6.3

(raw scores continued)

Math	English	Reading	Scinece	Social Studies
4.0	4.5	3.0	3.2	3.1
8.5	8.0	8.3	5.4	7.2
(8.6)	(8.2)	6.4	7.7	(7.9)
8.6	(8.0)	(8.3)	5.8	7.2
7.9	6.6	6.0	6.9	6.0
6.6	5.9	6.4	6.6	5.3
6.6	5.5	4.4	4.2	4.3
7.7	5.2	3.9	6.9	5.3
8.6	5.9	5.6	5.4	3.1
6.3	4.9	5.4	5.0	5.6
4.1	4.1	4.4	3.9	4.0
5.1	4.8	5.1	4.9	5.0
6.9	6.2	5.4	5.3	6.0
4.5	2.6	3.7	3.0	2.8
5.6	2.6	4.1	4.0	2.6
4.0	4.4	4.1	4.0	4.0
6.5	7.4	7.2	7.0	6.9
5.0	4.3	2.5	3.1	2.0
4.1	3.9	4.3	3.6	3.9
4.1	5.3	5.4	5.1	5.5
7.2	6.1	4.6	7.6	5.0
6.8	8.4	7.3	5.0	7.2
7.7	5.5	6.6	5.8	5.0
6.8	4.9	6.0	6.7	5.5

A graph of English and social studies scores show a linear progression as not significant.

DIAGRAM II

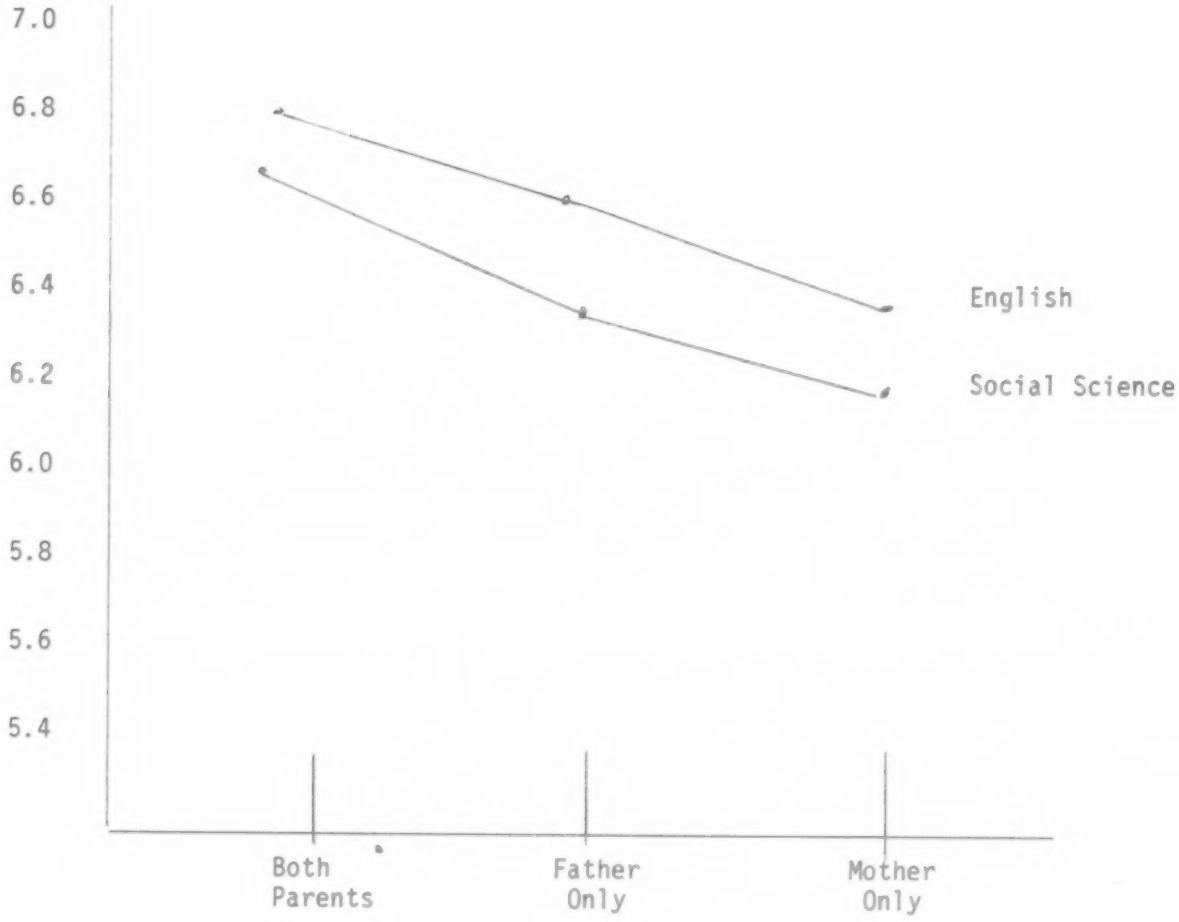

Fig. 1 Scores of 302 subjects in the analysis of Family Status. Families with both parents are superior to mother-only in the areas of social studies and English.